

REVIEW OF THE CENTRAL  
REGION GROUND FISH FISHERIES

1992 REPORT TO THE ALASKA  
BOARD OF FISHERIES



by

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## TABLE OF CONTENTS

	<u>Page</u>
<b>LIST OF TABLES</b> . . . . .	iv
<b>LIST OF FIGURES</b> . . . . .	v
<b>LIST OF APPENDICES</b> . . . . .	v
<b>ABSTRACT</b> . . . . .	vi
<b>INTRODUCTION</b> . . . . .	1
<b>METHODS</b> . . . . .	1
<i>Fish Ticket Reporting System</i> . . . . .	1
<i>Reporting Areas</i> . . . . .	2
<i>Conversion and Summary of Fish Products</i> . . . . .	3
<b>RESULTS</b> . . . . .	3
<i>Management Actions in 1992</i> . . . . .	3
<i>Central Region Summary</i> . . . . .	5
<i>Central Region Product Value</i> . . . . .	6
<i>Harvest by Reporting Area</i> . . . . .	6
<i>North Gulf Harvest</i> . . . . .	6
<i>Prince William Sound Harvest</i> . . . . .	7
<i>Prince William Sound Sablefish.</i> . . . .	7
<i>Other Prince William Sound Groundfish.</i> . . . .	7
<i>Cook Inlet Harvest</i> . . . . .	8
<b>GROUNDFISH FISHERIES OUTLOOK</b> . . . . .	8
<i>Proposed Groundfish Regulation Changes</i> . . . . .	8
<i>Changes in Management Strategies for 1993</i> . . . . .	9
<i>Future Industry Changes</i> . . . . .	10
<b>LITERATURE CITED</b> . . . . .	12

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Annual groundfish harvest and effort from Cook Inlet, Prince William Sound, and the North Gulf during 1987-1992 . . . . .	13
2. Monthly groundfish harvests by gear type during 1992 and annually during 1987-1992 from state waters of the Central Region . . . . .	14
3. Annual groundfish harvest (lb), price (\$/lb), exvessel value (\$), and effort from the Central Region during 1987-1992 . . . . .	15
4. Monthly groundfish catch and effort by Central Region reporting area during 1992 . . . . .	16
5. Historical harvest and effort in the Prince William Sound sablefish fishery, 1985-1992 . . . . .	17

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Groundfish harvest reporting areas of the Central Region . . . . .	18

## LIST OF APPENDICES

<u>Appendix</u>	<u>Page</u>
A. Delivery condition codes used to specify the dressed condition of a groundfish product as reported on groundfish fish tickets . . . . .	19
B.1. Primary openings and closures of groundfish fisheries in federal waters of the Exclusive Economic Zone adjacent to the Central Region during 1992 . . . . .	20
B.2. Primary openings and closures of groundfish fisheries in state waters of the Central Region during 1992 . . . . .	21

## ABSTRACT

The Central Region includes all state waters west of Cape Suckling and north of Cape Douglas; and includes Prince William Sound, Cook Inlet, and what is referred to as the North Gulf. Through July 1992, 304 fishermen delivered 9.0 million lb (4,097 tonne) of groundfish in 1,583 landings from Central Region waters. This was the largest harvest on record and generated an exvessel value of \$2.6 million. By weight, Pacific cod comprised 88%, sablefish 6%, and rockfish 6% of the 1992 harvest. Species caught primarily as bycatch included flounders, lingcod, and "other" groundfish. Longline vessels delivered 63%, pot vessels 35%, and jig vessels 1% of the 1992 harvest. Increased harvests in 1992 were attributed to strong groundfish markets, particularly for Pacific cod, and economic or biological declines in salmon and shellfish fisheries. Management of groundfish stocks in Cook Inlet, Prince William Sound, and the North Gulf generally coincided with inseason actions in the adjacent Federal waters. However, increased fishing effort in recent years has generated concerns over the status of nearshore resources, particularly rockfish and lingcod. More conservative management strategies are being adopted, including proposed regulations to be addressed by the Alaska Board of Fisheries during the 1992-1993 meeting cycle. Management will benefit from sampling programs to determine groundfish stock composition in these nearshore fisheries. Central Region groundfish fisheries, particularly for Pacific cod, should remain strong for several years, although annual federal harvest allocations for this species have continued to decline. Given the increased fishing effort for rockfish, lingcod, and sablefish stocks, more intensive management is anticipated.

KEY WORDS: Groundfish, harvest, Central Region, North Gulf, Prince William Sound, Cook Inlet.

## INTRODUCTION

Groundfish, or bottomfish, includes all marine finfish excluding halibut, herring, salmonids, and osmerids. The Alaska Department of Fish and Game (ADF&G) and the National Marine Fisheries Service (NMFS) coordinate management responsibilities for groundfish fishing in Alaska coastal waters. The ADF&G has management jurisdiction for groundfish stocks in territorial waters extending 0-3 miles from shore. Federally managed waters of the Exclusive Economic Zone (EEZ; previously referred to as the Fishery Conservation Zone) extend from 3-200 miles offshore. Fishery management plans (FMP's) for the EEZ are developed by the North Pacific Fisheries Management Council with inseason management implemented by the NMFS. Management regulations for state waters are established by the Alaska Board of Fisheries with inseason adjustments made through Emergency Order (EO) by the ADF&G. State management actions generally coincide with the federal actions in the adjacent EEZ. Intensified groundfish fisheries in recent years have increased conservation concerns for some groundfish resources (Bechtol 1992a, 1992b).

This report presents data on the commercial harvests of groundfish from waters of state jurisdiction in the Central Region, including waters between Cape Suckling (144° W. longitude) and Cape Douglas (58°52' N. latitude), and from federal waters inside Cook Inlet.

## METHODS

### *Fish Ticket Reporting System*

Processors, buyers, and fishermen were responsible for recording each groundfish landing on an ADF&G fish ticket and submitting that fish ticket to the ADF&G. As part of a cooperative agreement between NMFS and ADF&G,

groundfish harvest data reported by Central Region processors were entered into the statewide groundfish database. An ADF&G representative reviewed the fish ticket data for incomplete or inaccurate information, then data was entered into an electronic database (ADF&G 1989). Groundfish data was electronically transferred to the NMFS Management Division office in Juneau, Alaska, for compilation of statewide harvest data. NMFS applied this database to harvest verification and inseason management. Data was later transferred to the ADF&G Computer Services office in Juneau. Fisheries contributing to the data compiled herein included longline, pot, jig, trawl, and sunken gillnet fisheries for sablefish and miscellaneous groundfish in Prince William Sound, Cook Inlet, and the North Gulf.

#### *Reporting Areas*

Groundfish harvests from state waters of the Central Region were further summarized according to the three geographic areas described below (Figure 1):

- (1) Cook Inlet - here defined as all waters (including federal) of Cook Inlet enclosed by a line from Point Adam (59°15'20" N, 151°58'30" W) to Cape Elizabeth (59°09'30" N, 151°53' W) to Cape Douglas (58°52' N);
- 2) Prince William Sound - waters of Prince William Sound enclosed by lines from Point Whitt (60°27' N, 145°53' W) to Point Barrow (60°24' N, 146°04' W), from Cape Hinchinbrook (60°14' N, 146°39' W) to Zaikof Point (60°19' N, 146°55' W), and from Cape Cleare (59°46'25" N, 147°54'30" W) to Cape Puget (59°56'35" N, 148°26'30" W); and
- 3) North Gulf - state waters between Cape Suckling (143°53' W.) and Cape Douglas, excluding Prince William Sound and Cook Inlet.



## Conversion and Summary of Fish Products

Harvests reported by commercial fishermen and processors on ADF&G fish tickets were generally expressed as dressed weight. The dressed weight and the product value were converted to round weight equivalents using Product Recovery Ratios (PRR's) which are specific to species and delivery condition codes (Appendix A; ADF&G 1989). Groundfish harvest data, expressed in pounds (lb) and tonnes (1 tonne = 2,205 lb) of round weight, were summarized into the fish groups of rockfish (*Sebastes* and *Sebastolobus* species), sablefish (*Anoplopoma fimbria*), Pacific cod (*Gadus macrocephalus*), lingcod (*Ophiodon elongatus*), and "other groundfish". Unlike the extensive fisheries in federal waters, pollock (*Theragra chalcogramma*) comprised <0.1% (7,117 lb; 3 tonne) of the catch from Central Region State waters, and was included in the "other groundfish" category.

For consistency with other data in this report, exvessel value was presented as round-weight equivalents. Product value was not always available for each landing report. To estimate exvessel value, the price-per-pound, by individual species, was averaged across all Central Region landings for which product values were reported. This average price was extrapolated to all Central Region landings and summed within fish groups.

## RESULTS

### *Management Actions in 1992*

An ADF&G EO, effective from 26 December 1991 through 31 December 1992, stated that management actions for state waters of Cook Inlet, the Central Gulf of Alaska, and Prince William Sound would correspond with seasons in the adjacent

federal waters, unless superseded by other EO's (Appendix B). This EO: (1) allowed for consistent management of fisheries which target the same groundfish stocks in adjacent state and federal waters; (2) facilitated enforcement of regulations; (3) reduced the duplication of individual regulatory actions for adjacent state and federal waters; and (4) provided some stock conservation measures in cases where the ADF&G lacks sufficient data to actively manage nearshore groundfish populations. A brief synopsis of the primary groundfish management actions during 1992 is provided below and in Appendix B.2. In an effort to keep the public informed, news releases extensively detailing the status of various groundfish fisheries were also sent approximately monthly to Central Region groundfish processors. A news release detailing the groundfish proposals being addressed during the 1992-93 Board of Fisheries cycle and soliciting public input on several proposed regulations was also sent to permit holders who reported rockfish landings during the years 1990-1992.

With the exception of sablefish and trawl gear, all groundfish fisheries in state waters of the Central Region and the adjacent federal waters were opened for directed fishing on 1 January 1992. Groundfish trawl fisheries were delayed until 20 January, but with bycatch-only restrictions for rockfish until July. Kachemak Bay in Cook Inlet was closed to groundfish pot gear from 1 January to 3 February to facilitate an orderly Tanner crab fishery. Kamishak Bay in Cook Inlet and the interior portions of Kachemak Bay have remained closed to groundfish pot gear since 1 January to protect depressed or rebuilding crab stocks. The North Montague and Orca Bay areas of Prince William Sound were similarly closed to groundfish pots from 1 January to 31 July and from 28 August to 31 December to protect depressed crab stocks. A shift of the Pacific cod fishery to bycatch-only on 4 April reduced much of the Central Region groundfish effort. The directed Pacific cod fishery reopened on 17 August, then shifted to bycatch-only on 16 October. The commercial lingcod fishery was closed from 15 April through 30 June to protect depressed lingcod populations during the critical nest-guarding phase (Vincent-Lang and Bechtol 1992). Sablefish opened to all gears in Prince William Sound and to longline gear in Cook Inlet and the North Gulf on 15 May; closing in Prince William Sound on 1 June and the other areas on 3 June. The

sablefish fishery reopened for 24 hrs on 8 June and again on 28 June in the North Gulf and Cook Inlet. To prevent circumvention of salmon closure actions, the use of salmon seine gear to harvest groundfish was prohibited in Prince William Sound and North Gulf areas closed to salmon seining during 1 July to 31 October.

### *Central Region Summary*

Through July, 304 fishermen had made 1,583 landings, delivering 9.0 million lb (4,097 tonne) of groundfish from Central Region waters (Table 1). Most of the 1992 harvests occurred in fisheries for Pacific cod (7.9 million lb, 3,589 tonne, or 88% of the 1992 total), sablefish (581,087 lb, 264 tonne, or 6% of the total), and rockfish (504,424 lb, 229 tonne, or 6% of the total). Additional groundfish species, primarily caught as bycatch, included lingcod (22,504 lb, 10 tonne), flounders (1,169 lb, <1 tonne), and other groundfish (12,560 lb, 6 tonne). The 1992 groundfish harvest was the largest on record for state waters of the Central Region. During the years 1987-1992, the groundfish harvest from Central Region waters has ranged from 451,664 lb (205 tonne) to the record harvest in 1992. The North Gulf generated 56% of the Central Region harvest, whereas Prince William Sound generated 26% and Cook Inlet produced 18% (Table 1). Monthly harvests from the region peaked at 2.3 million lb (1,024 tonne) in March (Table 2). The size of the harvest has generally reflected increased effort as measured by the number of vessels and the number of landings.

A single vessel may fish several gear types within a season or at the same time if all applicable licenses and permits are obtained. However, most vessels fished a single gear type. In 1992, 238 longline vessels made 1,063 landings totaling 5.7 million lb (2,601 tonne), or 64% of the total groundfish harvest from state waters of the Central Region (Table 2). Sixty-seven pot vessels made 447 landings totaling 3.1 million (1,413 tonne), or 35% of the Region total. Fourteen jig (including hand troll) vessels made 47 landings totaling 132,867 lb (60 tonne), 1% of the region total; and three vessels

using other gear types landed 51,980 lb (24 tonne), <1% of the total region harvest. The catch attributable to longline gear, while slightly above 1991 levels, was well below historical levels and reflects the increased use of groundfish pots for Pacific cod in the last two years (Table 2)

#### *Central Region Product Value*

Product value was calculated using round weight equivalents. The 9.0 million lb of groundfish harvested from state waters of the Central Region in 1992 generated an estimated ex-vessel value of \$2.6 million (Table 3). Pacific cod, at an average of \$0.24/lb, generated the greatest exvessel value at \$1.9 million. Sablefish deliveries were paid the highest price at \$.94/lb (or \$1.49/lb dressed as headed-and gutted) and generated an exvessel value of \$546,222. Rockfish, priced at \$0.30/lb, generated an exvessel value of \$148,910, whereas lingcod generated \$6,768, flounders generated \$140 and other groundfish generated \$7,616.

#### *Harvest by Reporting Area*

##### *North Gulf Harvest*

During 1992, 179 vessels have made 676 landings totaling 5.1 million lb (2,300 tonne) of groundfish harvested from state waters of the North Gulf (Table 1). Pacific cod comprised 90% (4.6 million lb, or 2,069 tonne), rockfish comprised 7% (338,938 lb, or 153 tonne), and sablefish comprised 3% (148,409 lb, or 67 tonne) of the North Gulf harvest. The remainder of the harvest was comprised of lingcod (20,162 lb, 9 tonne) and other groundfish (1,655 lb, <1 tonne). Based on harvests reports through July, the 1992 rockfish harvest will probably become the largest on record. The North Gulf harvests of Pacific cod and sablefish are already the largest on record. Monthly harvests from the

North Gulf peaked at 3.4 million lb (1,533 tonne) in March (Table 4). Lingcod harvests from the North Gulf were substantially reduced from the 1991 level. Because of resource conservation concerns, the lingcod fishery was closed from 15 April through 30 June, reducing potential harvests during the critical nest-guarding period (Vincent-Lang and Bechtol 1992).

#### Prince William Sound Harvest

*Prince William Sound Sablefish.* Fishermen must obtain a Prince William Sound Sablefish Fishery Permit prior to commercially fishing for sablefish in Prince William Sound. In 1992, 88 fishermen obtained permits (Table 5). Fishermen participating in the Prince William Sound sablefish fishery were also encouraged to obtain a miscellaneous finfish interim use card (CFEC card) in addition to sablefish cards and permits. Fishermen validly licensed to fish both sablefish and miscellaneous finfish in the Prince William Sound area may legally retain both sablefish and miscellaneous groundfish in excess of the state's 20% incidental catch limits (Alaska statute 5 AAC 05.120), thereby reducing waste of the resource and allowing fishermen to maximize potential income.

The Prince William Sound sablefish fishery opened by regulation on 15 May and closed by Emergency Order on 1 June, the shortest season on record. The 432,676 lb (196 tonne; Table 5) of sablefish harvested from Prince William Sound in 1992 was the highest on record, but exceeded the harvest guideline range of 88,200 to 308,700 lb (40-140 tonne). The ex-vessel value of \$406,720 for the 1992 sablefish harvest was the highest on record. The 112 landings recorded by 49 vessels in the Prince William Sound sablefish fishery was the second highest effort on record. The record harvests from fewer landings than in 1991 indicates increased catch rates and probably reflects more effort targeting sablefish and no incidental harvests during halibut fisheries. Sablefish loss to killer whales appeared to be lower in 1992 than in previous years (personal communication with anonymous permit holders). Sablefish are generally delivered to the processor either in the round, or as headed-and-gutted eastern or western cut. However, the Department of Environmental

Conservation (DEC) has informed sablefish permit holders that "fish head removals" will no longer be allowed in the absence of a fish processing license.

*Other Prince William Sound Groundfish.* A total of 2.4 million lb (1,067 tonne) of all groundfish species have been harvested from state waters of Prince William Sound during 1992 (Table 1). Monthly harvest levels peaked at 786,949 lb (357 tonne) in March, reflecting increased effort in the Pacific cod fishery (Table 4). Pacific cod comprised 74% (1,744,309 lb, or 791 tonne) of the Prince William Sound groundfish harvest, reflecting the continued favorable market for Pacific cod. Rockfish, caught primarily in conjunction with sablefish and Pacific cod, comprised 7% (165,442 lb, or 75 tonne) of the Prince William Sound groundfish harvest. This was the second highest rockfish harvest on record. Other species that were primarily harvested as a bycatch to Pacific cod or sablefish included lingcod (2,342 lb, or 1 tonne), flounders (1,169, or <1 tonne), and other groundfish (7,500 lb, 3 tonne).

The 1992 Prince William Sound groundfish harvest of 2.4 million lb was the second largest on record (Table 1). The 1992 harvest reflected the favorable market conditions for Pacific cod and sablefish, and substantial landings of marketable rockfish caught primarily as bycatch.

#### Cook Inlet Harvest

During 1992, 1.6 million lb (730 tonne) of groundfish were harvested from state and federal waters of Cook Inlet by 54 vessels making 308 landings (Table 1). Reflecting a favorable market, Pacific cod comprised virtually all (729 tonne) of the Cook Inlet groundfish harvest. Other groundfish (3,405 lb, or 1.5 tonne) comprised the balance of Cook Inlet harvests. Monthly harvest levels for Cook Inlet peaked at 949,669 lb (431 tonne) in March (Table 4). The 1992 harvest was the second largest on record.

## GROUNDFISH FISHERIES OUTLOOK

### *Proposed Groundfish Regulation Changes*

Fisheries regulations establish a framework with which resource managers, enforcement, and the fishing industry provide long-term sustained yield for a variety of user groups. As resource utilization develops, resource managers must address both short- and long-term conservation concerns. As demand for a resource expands to exceed potential resource production, the resource must be allocated among user groups. For resources managed by the ADF&G, the Alaska Board of Fisheries adopts regulations to govern resource conservation and utilization. Following is a partial list of proposed groundfish regulation changes to be addressed by the Alaska Board of Fisheries during the 1992-1993 meeting cycle:

Proposal 3 - Establish a Northern Gulf of Alaska coastal rockfish management plan. The proposed plan would establish trip limits, authorize the ADF&G to implement bycatch-only seasons, and provide guidelines for the implementation of bycatch-only seasons.

Proposals 4-7 and 10-12 - Establish measures to rebuild locally depressed lingcod resources and to protect stable populations.

Proposal 8 - Establish a North Gulf District in the Central Gulf of Alaska.

Proposal 9 - Correct typographical errors in a regulation which prohibits non-pelagic trawl in portions of Cook Inlet.

Proposal 13 - Allow retention of groundfish taken incidentally by drift or set gillnet gear operated in Cook Inlet for herring or salmon.

Proposal 14 - (a) Prohibit longlining of groundfish pots; and (b) clarify buoy marking requirements.

Proposal 15 - Prohibit the use of sunken gillnet for groundfish in all areas of the state.

### *Changes in Management Strategies for 1993*

Historical participation in most Central Region groundfish fisheries has been increasing but variable, driven largely by short-term market fluctuations or declines in non-groundfish fisheries (e.g., salmon or crab). As groundfish fisheries develop, knowledge from these fisheries may be applied to area- or species-specific management plans. For example, Proposal 3 addresses a rockfish management plan for the North Gulf, Prince William Sound, and Cook Inlet (Bechtol 1992b). However, until a sufficient database on stock composition and production parameters is developed, openings and closures of most groundfish fisheries in state waters of the Central Region will continue to coincide with actions in the adjacent federal waters of the Gulf of Alaska. A primary exception will be the Prince William Sound sablefish fishery, which is actively managed by the State of Alaska for an established harvest quota. Due to increasing effort and gear efficiency in recent years, it has become difficult to avoid exceeding the preseason harvest guideline. To facilitate management of the 1993 Prince William Sound sablefish fishery, preseason processor registration and daily harvest reporting will be required of processors. In addition, management may implement weekly fishing periods to better monitor harvest rates. If possible, some of the guideline harvest will be "reserved" to allow retention of incidentally caught sablefish during the directed halibut fisheries.

### *Future Industry Changes*

Fisheries for groundfish, including Pacific cod, should continue to develop as long as market conditions remain favorable. A major factor of marketing is product quality; fishermen and processors need to deliver a high quality product in order to maintain a market share. In an effort to maximize returns, several fishermen have developed smaller specialized markets for selected species. These fishermen are able to generate a high exvessel value for a high quality product delivered at a relatively constant rate. If



constant rates are to be maintained, specific gear or vessel allocations may need to be developed for some nearshore fisheries. The establishment of such allocations will probably depend upon historical harvests or stock dynamics data that justifies management independent of federal stocks.

Permit holders are already reducing interactions with prohibited species by altering gear, method fished, or area fished. For example, the use of groundfish pots, modified with halibut exclusion devices, has reduced halibut bycatch during Pacific cod fisheries. However, greater effort and gear efficiency implies fishermen increasingly have both the capacity and potential to overharvest a given species or stock. Managers will need to carefully establish and monitor fishing seasons that provide access to the target species while reducing potential overharvest problems and resource waste through unnecessary discards.

Future fishing strategies in both federal and state waters may be severely modified as Individual Transferrable Quotas (ITQ's) are adopted for the Gulf of Alaska sablefish and halibut fisheries. The ITQ system will allocate a fixed share of the total allowable catch for these fisheries to an individual permit holder and will subsequently limit entry into these fisheries. The effect of an ITQ system upon management strategies for state waters cannot be determined at this time.

Groundfish fisheries will continue to evolve as issues such as bycatch, marine mammals, gear efficiency, and catch allocation are addressed. It will take cooperative efforts between the industry and management agencies to develop gear that is cost-effective to operate, yet minimizes bycatch. As managers develop a better understanding of stock production, public participation will play a significant role in the resolution of allocative issues. Ultimately, fishermen, the producers, will need to deliver a quality product at a price that will maintain and expand groundfish markets, both foreign and domestic.

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Table 1. Annual groundfish harvest and effort from Cook Inlet, Prince William Sound, and the North Gulf during 1987-1992<sup>a</sup>.

Year	Ves- sels	Land- ings	Round Weight (lb)						Total
			Rockfish	Sablefish	Pacific Cod	Flounders	Other Groundfish	Lingcod	
North Gulf									
1987	117	312	169,147	36,797	790,633	877	5,138	25,522	1,028,114
1988	71	191	200,349	89,156	306,952	2,368	2,467	25,176	626,468
1989	25	56	50,089	3,739	30,789	0	389	7,026	92,032
1990	59	80	46,974	11,589	71,847	13	548	5,698	136,669
1991	113	261	219,151	127,283	968,455	175	1,238	65,256	1,381,558
1992	179	676	338,938	148,409	4,562,125	0	1,655	20,162	5,071,289
Prince William Sound									
1987	100	207	90,061	184,581	415,483	27,113	8,117	594	725,949
1988	79	265	109,611	211,769	319,202	15,287	13,655	1,338	670,862
1989	39	132	91,508	180,903	65,698	0	2,113	1,280	341,502
1990	110	416	355,284	185,670	1,069,004	67,971	1,085	7,906	1,686,920
1991	146	454	154,869	331,314	2,218,911	4,385	1,104	19,357	2,728,940
1992	142	602	165,442	432,676	1,744,309	1,169	7,500	2,342	2,353,438
Cook Inlet									
1987	178	731	21,541	2,359	870,530	135,059	56,472	103	1,086,064
1988	67	178	7,154	74,337	215,586	220	275	127	297,699
1989	11	20	1,736	5,400	8,363	11	2,620	0	18,130
1990	88	302	134,853	24,664	387,779	5,002	10,593	394	563,285
1991	86	414	302	132	2,011,379	0	1,612	0	2,013,425
1992	54	308	44	2	1,606,645	0	3,405	0	1,610,096
Central Region Total									
1987	324	1,250	280,749	223,737	2,076,646	163,059	69,727	26,219	2,840,137
1988	171	634	317,114	375,262	841,740	17,875	16,397	26,641	1,595,029
1989	60	208	143,333	190,042	104,850	11	5,122	8,306	451,664
1990	211	798	537,111	221,923	1,528,630	72,986	12,226	13,998	2,386,874
1991	273	1,127	373,322	458,729	5,198,745	4,560	3,954	84,613	6,123,923
1992	304	1,583	504,424	581,087	7,913,079	1,169	12,560	22,504	9,034,823

<sup>a</sup> Preliminary data through July 1992.

<sup>b</sup> Includes state and federal waters, except rockfish which are summarized only for state waters.

Table 2. Monthly groundfish harvests by gear type during 1992 and annually during 1987-1992 from state waters of the Central Region.

	<u>Round Weight (lb)</u>				Total
	Longline	Jig	Pot	Other	
January	280,092	0	210,558	2,836	111,516
February	1,033,575	0	703,644	13,393	503,449
March	3,059,901	15,505	2,041,724	0	2,257,026
April	566,788	32,965	158,108	7,844	1,919,500
May	637,023	39,177	1,364	9,219	286,023
June	107,699	38,822	0	0	318,929
July	49,321	1,415	0	18,688	50,713
Total	5,734,599	132,867	3,115,377	51,980	5,997,782
	<u>Number of Vessels and Landings</u>				Total
	Longline	Jig	Pot	Other	
Vessels	238	14	67	<4	304
Landings <sup>a</sup>	1,063	47	447	26	1,583

Annual Central Region catch composition by gear type during 1987-1992.

Year	<u>Percentage of Total Weight Landed</u>				Vessels	Landings	Total Lbs
	Longline	Jig	Pots	Other			
1987	87.2%	3.1%	0.6%	10.0%	324	1250	2,840,137
1988	90.8%	6.2%	1.3%	1.7%	171	634	1,595,029
1989	94.5%	4.2%	0.2%	1.1%	60	208	451,664
1990	89.1%	2.8%	3.0%	5.1%	211	798	2,386,874
1991	57.3%	5.5%	36.6%	0.6%	273	1,127	6,123,923
1992 <sup>a</sup>	63.5%	1.4%	34.5%	0.6%	304	1,583	9,034,823

<sup>a</sup> Preliminary data processed through July 1992.

<sup>b</sup> Some vessels fished more than one gear type during a year.

Table 3. Annual groundfish harvest (lb), price (\$/lb), exvessel value (\$), and effort from the Central Region during 1987-1992.

Vessels	Land-ings	Round Weight (lb)						Total
		Rockfish	Sablefish	Pacific Cod	Flatfish	Other Groundfish	Lingcod	
1987 Harvest								
324	1,250	280,749	223,737	2,076,646	163,059	69,727	26,219	2,840,137
Price/lb		\$0.31	\$0.64	\$0.24	\$0.28	\$0.25	\$0.45	
Value		\$87,600	\$143,200	\$498,400	\$45,400	\$17,100	\$11,800	\$803,500
1988 Harvest								
171	634	317,114	375,262	841,740	17,875	16,397	26,641	1,595,029
Price/lb		\$0.33	\$0.99	\$0.24	\$0.35	\$0.28	\$0.34	
Value		\$103,600	\$371,500	\$202,000	\$6,200	\$4,700	\$9,100	\$697,100
1989 Harvest								
60	208	143,333	190,042	104,850	11	5,122	8,306	451,664
Price/lb		\$0.41	\$0.89	\$0.21	\$0.10	\$0.16	\$0.36	
Value		\$58,100	\$169,100	\$22,000	\$0	\$0,800	\$3,000	\$253,000
1990 Harvest								
211	798	537,111	221,923	1,528,630	72,986	12,226	13,998	2,386,874
Price/lb		\$0.38	\$0.69	\$0.24	\$0.22	\$0.12	\$0.36	
Value		\$202,200	\$153,100	\$366,900	\$16,300	\$1,400	\$5,000	\$745,000
1991 Harvest								
273	1,127	373,222	458,729	5,198,745	4,560	3,954	84,613	6,123,923
Price/lb		\$0.28	\$0.91	\$0.28	\$0.23	\$0.46	\$0.37	
Value		\$104,500	\$417,400	\$1,455,600	\$1,000	\$1,800	\$31,300	\$2,011,800
1992 Harvest <sup>a</sup>								
304	1,583	504,424	581,087	7,913,079	1,169	12,560	22,504	9,034,823
Price/lb		\$0.30	\$0.94	\$0.24	\$0.12	\$0.61	\$0.30	
Value		\$151,300	\$546,200	\$1,899,100	\$100	\$7,700	\$6,800	\$2,611,200

<sup>a</sup> Preliminary data processed through July 1992.

Table 4. Monthly groundfish catch and effort by Central Region reporting area during 1992.

Month	Vessels	Land-ings	Round Weight (lb)						Total
			Rockfish	Sablefish	Pacific Cod	Flatfish	Other Groundfish	Lingcod	
North Gulf									
January	23	36	9,150	14	173,447			843	183,454
February	38	62	5,047	6	644,635			842	650,530
March	127	393	34,493	3,676	3,332,268		970	9,105	3,380,512
April	62	86	121,906	134	398,034		201	7,376	527,651
May	27	35	71,078	74,357	6,941		85		152,461
June	36	45	57,715	69,087	4,382				131,184
July	8	119	39,549	1,135	2,418		399	1,996	45,497
Total	179	676	338,938	148,409	4,562,125	0	1,655	20,162	5,071,289
Cook Inlet									
January	19	45			95,915		1,921		97,836
February	22	63	30	2	438,447		30		438,509
March	35	169	14		948,247		1,408		949,669
April	22	30			123,138		46		123,184
May	<4	<4			898				898
June	NO DATA								0
July	"	"							0
Total	54	308	44	2	1,606,645	0	3,405	0	1,610,096
Prince William Sound									
January	20	54	570		211,826				212,396
February	57	153	3,185		658,166			222	613,987
March	62	201	14,924	34	770,252		1,040	699	789,949
April	17	21	16,696	10	94,125	398	2,309		114,870
May	46	143	96,407	427,098	6,384	775	2,739		533,403
June	12	14	9,432	5,534	2,659				17,625
July	4	16	24,228		897	1,497			26,622
Total	142	602	165,442	432,676	1,744,309	1,169	7,500	2,342	2,353,438

\* Preliminary data processed through July 1992.

Table 5. Historical harvest and effort in the Prince William Sound sablefish fishery, 1985-1992.

YEAR	HARVEST (lb <sup>a</sup> )	VESSELS	LANDINGS	PRICE (\$/lb)	EXVESSEL VALUE	PERMITS ISSUED
1985	383,290 (173 tonne)	29	108			
1986	189,850 (86 tonne)	32	36			88
1987	205,350 (93 tonne)	71	120	\$0.66	\$135,530	116
1988	219,720 (100 tonne)	53	147	\$0.99	\$217,520	76
1989	186,300 (84 tonne)	26	98	\$0.80	\$149,040	86
1990	208,820 (95 tonne)	70	257	\$0.67	\$139,910	108
1991	331,314 (150 tonne)	72	147	\$0.91	\$301,500	96
1992	432,676 (196 tonne)	49	112	\$0.94	\$406,720	88

<sup>a</sup> Lb in round weight, with tonne in parenthesis; 1 tonne = 2,205 lb.

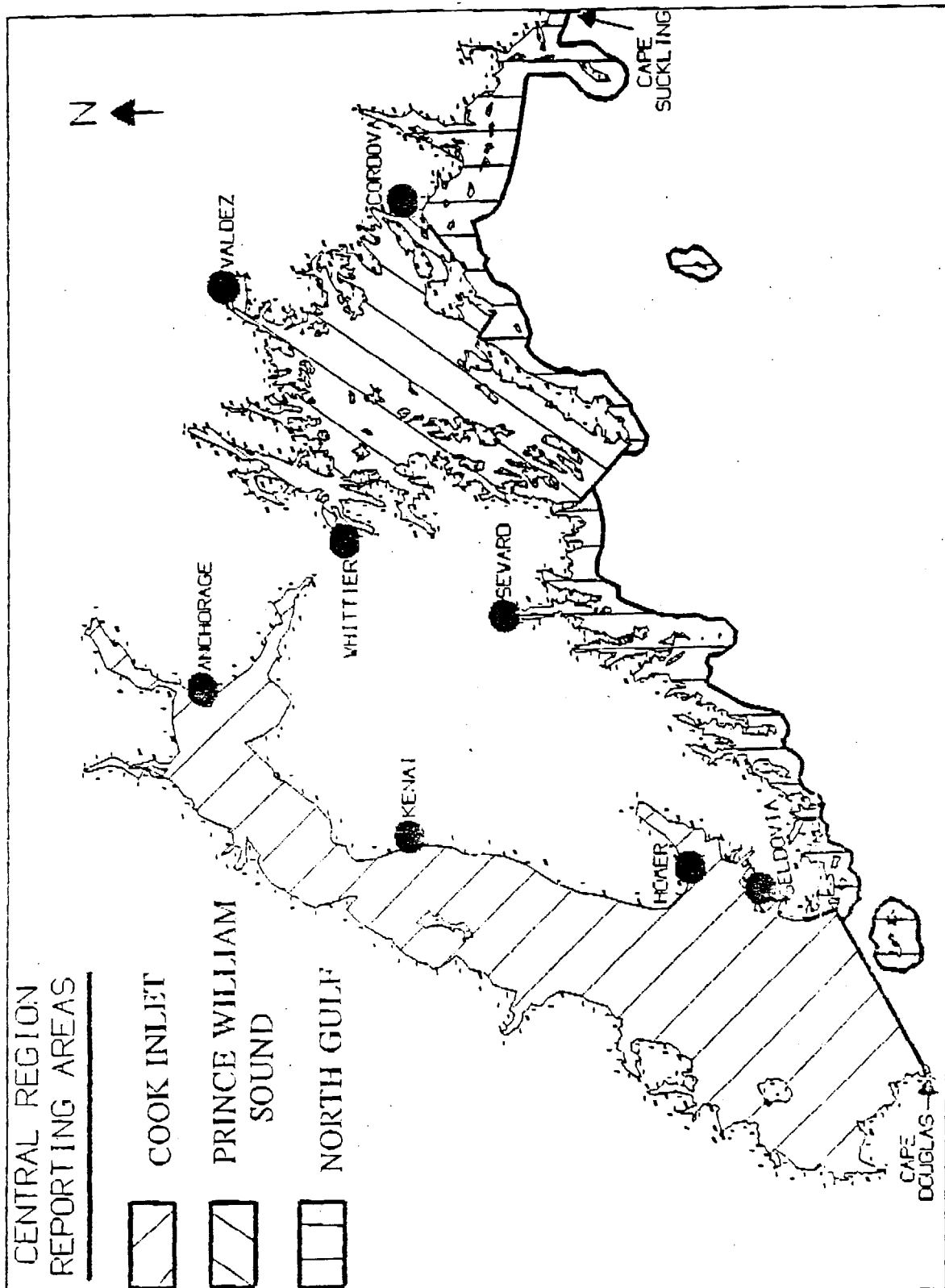


Figure 1. Groundfish harvest reporting areas of the Central Region.



Appendix A. Delivery condition codes used to specify the dressed weight condition of a groundfish product as reported on groundfish fish tickets.

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CONDITION CODE	FISH PRODUCT <sup>1</sup>
01	WHOLE FISH/FOOD FISH
02	WHOLE FISH/BAIT
03	BLED ONLY
04	GUTTED ONLY
06	HEADED AND GUTTED, WITH ROE
07	HEADED AND GUTTED, WESTERN CUT
08	HEADED AND GUTTED, EASTERN CUT
10	HEADED AND GUTTED, TAIL REMOVED
11	KIRIMI
12	SALTED AND SPLIT
13	WINGS
14	ROE
15	PECTORAL GIRDLE
16	HEADS
17	CHEEKS
18	CHINS
19	BELLY (MEAT)
20	FILLETS WITH SKIN AND RIBS
21	FILLETS WITH SKIN, NO RIBS
22	FILLETS WITH RIBS, NO SKIN
23	FILLETS, SKINLESS AND BONELESS
30	SURIMI
31	MINCED
32	FISH MEAL
33	FISH OIL
34	MILT
35	STOMACHS (INTERNAL ORGANS)
36	OCTOPUS/SQUID MANTLES
37	BUTTERFLY, NO BACKBONE
39	BONES
96	DECOMPOSED FISH
97	OTHER - SPECIFY
98	DISCARDED AT SEA
99	LANDED DISCARDED

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<sup>1</sup> In cases where multiple products are derived from the same fish, the primary product is shown with the appropriate code and secondary products are listed with the appropriate codes preceded by the letter "A".

Appendix B.1. Primary openings and closures of groundfish fisheries in federal waters of the Exclusive Economic Zone adjacent to the Central Region during 1992.

DATE	WATERS	GROUNDFISH FISHERY <sup>a</sup>	GEAR	ACTION <sup>b</sup>
1/01	GULF OF ALASKA	GROUNDFISH, EX. SABLEFISH	ALL	OPENED
1/01	GULF OF ALASKA	SABLEFISH	ALL	BYCATCH
1/01	GULF OF ALASKA	ALL	TRAWL	CLOSED
1/20	GULF OF ALASKA	ALL	TRAWL	OPENED
1/20	GULF OF ALASKA	ROCKFISH	TRAWL	BYCATCH
1/20	EASTERN GULF	POLLOCK	ALL	BYCATCH
2/07	CENTRAL GULF	POLLOCK	ALL	BYCATCH
3/06	WESTERN & CENTRAL GULF	PACIFIC OCEAN PERCH	ALL	BYCATCH
3/22	GULF OF ALASKA	ALL	NON-PELAGIC TRAWL	CLOSED
3/29	CENTRAL GULF AREA 62	POLLOCK	ALL	BYCATCH
4/04	CENTRAL & EASTERN GULF	PACIFIC COD	ALL	BYCATCH
4/24	CENTRAL GULF	PACIFIC OCEAN PERCH	ALL	CLOSED
5 1-7/1	GULF OF ALASKA	ALL	TRAWL EXCEPT PELAGIC TRAWL FOR POLLOCK	CLOSED
5/13	GULF OF ALASKA	OTHER SPECIES	ALL	CLOSED
5/15	GULF OF ALASKA	SABLEFISH	HOOK-AND-LINE	OPENED
6/03	CENTRAL GULF	SABLEFISH	HOOK-AND-LINE	BYCATCH
6/08	AREA 3A	HALIBUT-24 HR	HOOK-AND-LINE	OPENED
6/06	EASTERN GULF	SHORTTRAKER/ROUGHEYE	ALL	BYCATCH
6/08	CENTRAL & EASTERN GULF	SABLEFISH	HOOK-AND-LINE	OPENED
6/09	CENTRAL & EASTERN GULF	SABLEFISH	HOOK-AND-LINE	BYCATCH
6/12	CENTRAL GULF AREA 63	POLLOCK	ALL	BYCATCH
6/28	CENTRAL GULF & WEST YAKUTAT	SABLEFISH	HOOK-AND-LINE	OPENED
6/29	CENTRAL GULF & WEST YAKUTAT	SABLEFISH	HOOK-AND-LINE	BYCATCH
6/29	CENTRAL GULF AREA 63	POLLOCK	ALL	OPENED
7/01	GULF OF ALASKA	ALL	TRAWL	OPENED
7/01	EASTERN GULF	SHORTTRAKER/ROUGHEYE	ALL	CLOSED
7/07	CENTRAL GULF AREA 63	POLLOCK	ALL	BYCATCH
7/08	GULF OF ALASKA	OTHER SPECIES	ALL	BYCATCH
7/10	CENTRAL GULF	SHORTTRAKER/ROUGHEYE	ALL	BYCATCH
7/12	CENTRAL GULF AREA 62	POLLOCK	ALL	BYCATCH
7/15	EASTERN GULF	PACIFIC OCEAN PERCH	ALL	BYCATCH
7/27	WEST YAKUTAT	SABLEFISH	HOOK-AND-LINE	CLOSED
8/03	EASTERN GULF	PACIFIC OCEAN PERCH	ALL	CLOSED
8/05	GULF OF ALASKA	ALL	BOTTOM TRAWL	BYCATCH
8/17	CENTRAL & EASTERN GULF	PACIFIC COD-INSHORE	ALL	OPENED
9/07	AREA 3A	HALIBUT-24 HR	HOOK-AND-LINE	OPENED
9/21	GULF OF ALASKA	ALL	LONGLINED POTS	CLOSED
9/28	CENTRAL GULF	POLLOCK	ALL	OPENED
9/30	GULF OF ALASKA	ALL	BOTTOM TRAWL	OPENED
9/30	CENTRAL GULF	PACIFIC COD-OFFSHORE	ALL	BYCATCH
10/05	AREA 3A	HALIBUT-48 HR	HOOK-AND-LINE	OPENED
10/05	WEST YAKUTAT	SABLEFISH	TRAWL	CLOSED
10/05	EASTERN GULF	PACIFIC COD-OFFSHORE	ALL	BYCATCH
10/05	CENTRAL GULF AREA 63	POLLOCK	ALL	BYCATCH
10/07	CENTRAL GULF	SHORTTRAKER/ROUGHEYE	ALL	CLOSED
10/08	CENTRAL GULF AREA 62	POLLOCK	ALL	BYCATCH
10/10	GULF OF ALASKA	THORNYHEAD	ALL	BYCATCH
10/16	CENTRAL GULF	PACIFIC COD-ALL	ALL	BYCATCH

<sup>a</sup> Inshore and offshore refer to the inshore and offshore components of the fishing fleets operating in federal waters.

<sup>b</sup> BYCATCH - Means that a fishery is only open to bycatch allowances.

<sup>c</sup> EG = Eastern Gulf (5 AAC 28.100), PWS = Prince William Sound (5 AAC 28.200), CI = Cook Inlet (5 AAC 28.300), CG = Central Gulf (5 AAC 28.400), WG = Western Gulf (5 AAC 28.500)

<sup>d</sup> Halibut fisheries significantly affect groundfish fishery management.

Appendix B.2. Primary openings and closures of groundfish fisheries in state waters of the Central Region during 1992.

DATE	WATERS <sup>a</sup>	FISHERY	GEAR	ACTION <sup>b</sup>
1/01 <sup>c</sup>	CI, PWS, CG	SEASONS COINCIDE W/NMFS INSEASON ADJUSTMENTS		
1/01	CI, CG	SABLEFISH	ALL	BYCATCH
1/01	CI, PWS, CG	ALL	TRAWL	CLOSED
1/01 <sup>c</sup>	KAMISHAK & KACHEMAK BAYS	ALL	POT	CLOSED
1/01 <sup>c</sup>	N MONTAGUE & ORCA BAY	ALL	POT	CLOSED
1/20	CI, PWS, CG	ALL	TRAWL	OPENED
1/20	EG	POLLOCK	ALL	BYCATCH
1/20	CI, PWS, CG	ROCKFISH	TRAWL	BYCATCH
2/03 <sup>c</sup>	OUTER KACHEMAK BAY	ALL	POT	OPENED
2/07	CI, PWS, CG	POLLOCK	ALL	BYCATCH
3/06	CI, PWS, CG	PACIFIC OCEAN PERCH	ALL	BYCATCH
3/22	CI, PWS, CG, EG	ALL	NON-PELAGIC TRAWL	CLOSED
4/04	CI, PWS, CG, EG	PACIFIC COD	ALL	BYCATCH
4/15 <sup>c</sup>	CG WEST OF CAPE DOUGLAS	LINGCOD	ALL	CLOSED
4/24	CI, PWS, CG	PACIFIC OCEAN PERCH	ALL	CLOSED
5/1-7/1	CI, PWS, CG, EG	ALL	TRAWL EXCEPT PELAGIC TRAWL FOR POLLOCK	CLOSED
5/13	CI, PWS, CG, EG	OTHER SPECIES	ALL	CLOSED
5/15	CI, CG, EG	SABLEFISH	HOOK-AND-LINE	OPENED
5/15 <sup>c</sup>	PWS	SABLEFISH	ALL	OPENED
6/01 <sup>c</sup>	PWS	SABLEFISH	ALL	CLOSED
6/03	CI, CG	SABLEFISH	HOOK-AND-LINE	BYCATCH
6/06	EG	SHORTRAKER/ROUGHEYE	ALL	BYCATCH
6/08	CI, PWS, CG	HALIBUT-24 hr <sup>d</sup>	HOOK-AND-LINE	OPENED
6/08	CI, CG, EG	SABLEFISH	HOOK-AND-LINE	OPENED
6/09	CI, CG, EG	SABLEFISH	HOOK-AND-LINE	BYCATCH
6/12	CI, PWS, CG EAST OF 154°W	POLLOCK	ALL	BYCATCH
6/28	CI, CG	SABLEFISH	HOOK-AND-LINE	OPENED
6/29	CI, CG	SABLEFISH	HOOK-AND-LINE	CLOSED
6/29	CI, PWS, CG EAST OF 154°W	POLLOCK	ALL	OPENED
7/01 <sup>c</sup>	CI, PWS, CG	ALL	TRAWL	OPENED
7/01 <sup>c</sup>	CI, PWS, CG N OF CAPE DOUGLAS	ALL	SEINE	
		CLOSED IN AREAS AND PERIODS CLOSED TO SALMON SEINE GEAR		
7/08	CI, PWS, CG, EG	OTHER SPECIES	ALL	BYCATCH
7/10	CI, PWS, CG	SHORTRAKER/ROUGHEYE	ALL	BYCATCH
7/31 <sup>c</sup>	N MONTAGUE & ORCA BAY	ALL	POT	OPENED
8/05	CI, PWS, CG	ALL	BOTTOM TRAWL	BYCATCH
8/17	CI, PWS, CG, EG	PACIFIC COD	ALL	OPENED
9/07	CI, PWS, CG	HALIBUT-24 hr <sup>d</sup>	HOOK-AND-LINE	OPENED
9/28	CI, PWS, CG	POLLOCK	ALL	OPENED
9/30	CI, PWS, CG, EG	ALL	TRAWL	OPENED
10/05	CI, PWS, CG	HALIBUT-48 hr <sup>d</sup>	HOOK-AND-LINE	OPENED
10/05	CI, PWS, CG EAST OF 154°W	POLLOCK	ALL	BYCATCH
10/07	CI, PWS, CG	SHORTRAKER/ROUGHEYE	ALL	CLOSED
10/10	CI, PWS, CG, EG	THORNYHEAD	ALL	BYCATCH
10/16	CI, PWS, CG	PACIFIC COD	ALL	BYCATCH

- <sup>a</sup> EG = Eastern Gulf (5 AAC 28.100), PWS = Prince William Sound (5 AAC 28.200), CI = Cook Inlet (5 AAC 28.300), CG = Central Gulf (5 AAC 28.400), WG = Western Gulf (5 AAC 28.500)
- <sup>b</sup> BYCATCH - Means that a fishery is only open to bycatch allowances. For state waters, bycatch is legal only when a fishery is open.
- <sup>c</sup> Management actions involving Board of Fisheries regulations or ADF&G
- <sup>d</sup> Emergency Orders specific to waters of State jurisdiction.
- Halibut fisheries significantly affect groundfish fishery management.

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